

an open lower end oriented away from said tube sheet;

a bottom end cap sealingly secured to the lower end of said filter sleeve to close said lower end of said filter sleeve; and

a unitary tubular, upper fitting including an upper flange extending above said tube sheet and overlying said tube sheet adjacent said circular opening to suspendingly support the filter cartridge from said tube sheet, a tube sheet mouth insert, a contoured transition and a lower cylindrical collar extending beneath said tube sheet all integrally formed of flexible, resiliently deformable material, said lower cylindrical collar of said fitting permanently securing said upper end of said filter sleeve;

C.1
cont
said upper flange of said fitting having an outermost circumferential edge with voids therein, and said contoured transition of said fitting being formed interiorly in a frusto-conical vertical cross-section and exteriorly in a substantially uniform cylindrical vertical cross-section with a diameter less than or equal to the diameter of said circular opening to permit said transition to pass through said circular opening of said tube sheet during installation; and

a tubular expander with an insertable band including an outer diameter substantially equal to or less than the inner diameter of said upper flange of said upper fitting, said band configured to engage interiorly said frusto-conical portion of said contoured transition of said fitting proximate said circular opening through said tube sheet to outwardly bias portions of the resiliently deformable fitting to affect sealing engagement with said cylindrical mouth surface of said tube sheet and with at least a portion of said lower surface of said tube sheet adjacent said circular opening;

C1
amended

said tubular expander further including a flange ring integrally joined to the upper end of said insertable band to overlie said upper flange of said upper fitting and to overlie said voids in the outermost circumferential edge of said upper flange when said filter cartridge is installed in said tube sheet to affect sealing engagement between at least a portion of said flange of said fitting with at least a portion of said upper surface of said tube sheet adjacent said circular opening, and adjacent said voids in the outermost circumferential edge of said upper flange to provide a tool access between the flange ring of said expander and the upper surface of the tube sheet to facilitate removal of said expander from engagement with said upper fitting for removing said filter cartridge from said tube sheet;

whereby, when said filter cartridge is installed in said tube sheet, said fitting deformably contacts said tube sheet on at least portions of the three tube sheet surfaces to affect sealing engagement therewith such that at least a portion of said flange of said fitting seals with at least a portion of said upper surface of said tube sheet adjacent said circular opening, said tube sheet mouth insert of said fitting seals with said cylindrical mouth surface of said tube sheet, and at least a portion of said contoured transition of said fitting seals with at least a portion of said lower surface of said tube sheet adjacent said circular opening.

Please amend Claim 14 as follows.

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14. (Amended) A unitary filter cartridge to be removably and sealingly received within a circular opening through a tube sheet separating the clean and dirty plenums of filtration apparatus, said tube sheet having an upper surface, a cylindrical mouth surface and a lower surface, said filter cartridge comprising:

a filter sleeve formed as a tubular member having an open upper end oriented toward

said tube sheet and an open lower end oriented away from said tube sheet;

a tubular screen positioned interiorly of said filter sleeve for structural support thereof, said tubular screen having an open upper end oriented toward said tube sheet and an open lower end oriented away from said tube sheet;

a bottom end cap sealingly secured to the lower end of said filter sleeve to close said lower end of said filter sleeve, said bottom end cap comprising a substantially cylindrical disk having an outside diameter greater than the diameter of said filter sleeve and being formed of flexible, resiliently deformable material, and a circumferential groove in said cylindrical disk which extends inwardly from the outside diameter of said disk to diameter at the bottom of said groove which corresponds to the outside diameter of said filter sleeve to concentrically align said filter sleeve with respect to said bottom end cap; and

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cont.
a unitary tubular, upper fitting including an upper flange extending above said tube sheet, a tube sheet mouth insert, a contoured transition and a lower cylindrical collar extending beneath said tube sheet all integrally formed of flexible, resiliently deformable material, said lower cylindrical collar of said fitting permanently securing said upper end of said filter sleeve, and said upper flange of said fitting overlying said tube sheet adjacent said circular opening to suspendingly support the filter cartridge from said tube sheet;

whereby, when said filter cartridge is installed in said tube sheet, said fitting deformably contacts said tube sheet on at least portions of the three tube sheet surfaces to affect sealing engagement therewith such that at least a portion of said flange of said fitting seals with at least a portion of said upper surface of said tube sheet adjacent said circular opening, said tube sheet mouth insert of said fitting seals with said cylindrical mouth surface

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cont.
of said tube sheet, and at least a portion of said contoured transition of said fitting seals with
at least a portion of said lower surface of said tube sheet adjacent said circular opening.

Please add the following new claim.

17. A unitary filter cartridge to be removably and sealingly received within a circular opening through a tube sheet separating the clean and dirty plenums of filtration apparatus, said tube sheet having an upper surface, a cylindrical mouth surface and a lower surface, said filter cartridge comprising:

a filter sleeve formed as a tubular member having an open upper end oriented toward said tube sheet and an open lower end oriented away from said tube sheet;

C₃
a tubular screen positioned interiorly of said filter sleeve for structural support thereof, said tubular screen having an open upper end oriented toward said tube sheet and an open lower end oriented away from said tube sheet;

a bottom end cap sealingly secured to the lower end of said filter sleeve to close said lower end of said filter sleeve, said bottom end cap comprising a substantially cylindrical disk having an outside diameter greater than the diameter of said filter sleeve and being formed of flexible, resiliently deformable material, and having a lower surface which extends beneath the lowermost end of said filter sleeve, and vertical grooves which extend upwardly from said lower surface to the lowermost end of said filter sleeve to vertically position said filter sleeve with respect to said bottom end cap; and

a unitary tubular, upper fitting including an upper flange extending above said tube sheet, a tube sheet mouth insert, a contoured transition and a lower cylindrical collar extending beneath said tube sheet all integrally formed of flexible, resiliently deformable